Metropolitan Food Systems Plan

DRAFT

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Prepared by the Fargo-Moorhead Metropolitan Council of Governments (Metro COG)

In cooperation with North Dakota State University Center for Social Research & Cass Clay Food Systems Initiative

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BACKGROUND

In recent years there has been a growing national movement to produce and consume more healthy and locally grown food. The movement to increase the support and capacity of the local food system has taken hold in the F-M Metropolitan area over the past several years. The local movement has been embraced by a collection of City and County public health officials, University Extension service officials, and a small group of individuals involved in the local production of food.

National and local data indicates a growth in the area of Community Supported Agriculture (CSAs) and farmers markets, suggesting an increased interest in the production and consumption of local foods. There are a handful of emerging community gardens within the F-M Metropolitan area. However, there is an increasing interest by the general citizenry and public health officials to find more space within neighborhoods to garden and produce food.

Recently in the F-M Metropolitan area, there is a growing understanding that the production and consumption of healthy and local food could reduce transportation and energy costs involved in the traditional food system and support the economic vitality of local economies, specifically smaller growers, producers, and markets. The local food movement puts forward the notion that the ability to produce, eat, and cook locally-sourced foods is an important part of community connectivity, long-term livability, self-reliance, and local food security. Finally, the public health community believes that increasing access to healthy and local food can improve health outcomes for large segments of the population of the F-M Metropolitan area.

DEVELOPMENT OF THE CASS-CLAY FOOD SYSTEMS INITIATIVE AND THE FOOD SYSTEMS PLAN

In late 2010 the Cass-Clay Food Systems Initiative (CCFSI) Steering Committee was created in response to the growing local interest in accessing healthy food for all residents and providing opportunities to produce and consume locally grown food. The goal of CCFSI is to impact all levels of the local food system to assure that residents have access to safe, nutritious, and affordable foods. The CCFSI Steering Committee includes members from the University of Minnesota Extension Service, North Dakota State University Cass County Extension Service, Fargo Cass Public Health, and Clay County Public Health. Soon after the formation of the CCFSI Steering Committee, CCFSI recruited members from all sectors of the local food system to form the Initiative's Planning Committee.

The preliminary work of the Planning Committee set the direction of CCFSI by developing a framework for moving forward to address local food systems within the F-M Metropolitan area. Additionally, the Planning Committee created and defined five (5) task force groups that would report back to the committee on their functional focus area: economic development, food access, food infrastructure, outreach and education, and urban agriculture. The task forces were populated by local individuals and interest groups who have indicated a willingness to work towards supporting the local food systems within the F-M Metropolitan area.

After several months of working on local food issues, CCFSI approached Metro COG regarding the development of a Metropolitan Food Systems Plan. The plan would detail existing conditions while also identifying strategies and policy considerations to improve the local food system based on five (5) functional focus areas.

- Economic Development – Influence the development and expansion of local food systems by positively impacting the local market place.

- Food Access – Increase the ease, availability, affordability, and accessibility of safe and nutritious food to all residents of Cass and Clay Counties.

- Food Infrastructure – Facilitate the use of local foods among producers, consumers, and institutions throughout the local food system.

- Outreach and Education – Improve the promotion, production, purchase, preparation, and presentation of local foods.

- Urban Agriculture – Influence public policy decisions to support the improvement of local food systems and local food production.

Work by the CCFSI over the previous months in all five (5) of these areas has served to strengthen the local food system as a regional issue that crosses jurisdictional boundaries. Producers, growers, and distributors of local food operate within and throughout the entire F-M Metropolitan area (and beyond).

The Metropolitan Food Systems Plan emphasizes coordination. It recognizes that a food systems plan needs to be region-wide and inclusive to ensure successful implementation of the whole food systems from the farmer, grower, and producer, to the table.

The Food System Plan: Structure and Framework

The Metropolitan Food Systems Plan is intended to outline major components of local food. It was designed to provide the necessary background material and research to inform conversations regarding potential policy choices. This plan uses a combination of pre-existing and new data collected by the CCFSI in 2012. Sources include Cass and Clay County, local non-profit organizations, and the Centers for Disease Control's Behavioral Risk Factor Surveillance System (BRFSS).

The plan begins by defining local food and the associated benefits, followed by local and national trends surrounding local food and barriers to access. Metro COG created a framework to understand the local food system that uses food access and infrastructure, health outcomes, food security, and urban agriculture factors. Using the research of CCFSI and public input, key issues were created and used to develop strategic objectives and desired outcomes. These objectives and outcomes guided the creation of an implementation plan, reviewed and adjusted by CCFSI and the public.

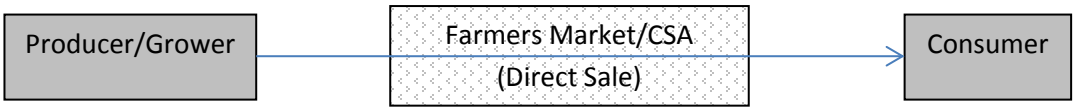
Definition of Local Food & the Local Food System

There is no singular definition of local food. However, there is emerging research and study on what local food is, and how local food makes its way into the market place. USDA Rural Development, pursuant to the 2008 Farm Act, has defined *local or regionally produced* agriculture as being within 400 miles of its origin. More recently, trends have emerged that suggest flexibility in defining *local* based on local conditions and geographies.

Perhaps more important than how local food is defined is how local food enters the market place and is transacted to consumers. There are two ways to understand what local food means in economic conditions.

Firstly, local food can be viewed as those food products which go directly from the *grower/ producer* to the *consumer*. This would typically be called *direct to consumer,* where growers/ producers are selling their products directly to consumers. Examples of *direct to consumer* transactions would be farmers markets and CSAs (Figure 1).

Figure 1.



Secondly, is the concept of *direct to retail/ food services.* Such an example would be a local food distributor (grocery store) or restaurant purchasing direct from a producer/ grower and then reselling to the consumer with or without additional post-purchase processing (Figure 2). Both of these concepts were more clearly outlined in a May 2010 Report issued by the UDSA titled *Local Food Systems – Concepts, Impacts, and Issues.*

Figure 2.

In both cases, the sale of local food requires the development of a *market place(s)* (and related market infrastructure) to allow for the exchange of local food prior to final consumption by a consumer. With this in mind, we can typically describe the local food systems as those growers, producers, distributors, and consumers of food and food products which deal in the sale of food directly from producer/ grower to consumer, or via a retail/ services establishment.
The Metropolitan Food System Plan is focused on aspects of the entire spectrum of this food system by ensuring:

- Appropriate conditions for the production of locally grown/ produced food
- Adequate markets are available to sell and distribute local food to consumers
- Adequate consumer demand for locally grown/ produced food

As with any part of the local economic structure, the right balance of private and public forces must come into alignment to support the local food system. The Metropolitan Food Systems Plan will outline the issues and opportunities available for the F-M Metropolitan area for strengthening the local food system.

The Benefits of Local Food

There has been a growing national movement supporting the development of local food. Based in large part on a 2010 USDA Report titled *Local Food Systems – Concepts, Impacts, and Issues,* the benefits of local food have been explored broadly over the past decade or more. The four (4) primary benefit areas typically heralded by the local food movement are:

- Economic Development – Local food consumption supports producers/ growers within the local market place keeping local dollars local; local food/ farmers markets can often have a secondary effect on distributors or adjacent retailers.

- Health and Nutrition – Empirical data is lacking regarding the impact of local food production on local health outcomes, but it is suggested that local foods may contain a higher nutrient value than non-local foods. While the production of local food may increase the availability of healthier food, it is a requisite that these foods be integrated into the local food system for local consumption, particularly targeted at more vulnerable populations.

- Food Security – It is generally expected that food security is improved when you increase the production of local foods, but there is little empirical data to back this claim. However, it is generally understood and recognized by the local food movement that the opportunity exists to address food security of lower income households by improving access to locally produced food through local markets. Further integrating local food choices into neighborhoods improves choice for the whole population, but most specifically for lower income neighborhoods, where access to fresh food is found to be limited.

- Energy Use – Empirical data is also lacking regarding the measurable benefit of local food to reduce energy use. On the surface however, the ability to positively reduce energy consumption through the production and consumption of local food is a real possibility, and resonates as a community benefit of the local food movement.

There is more research and analysis needed to develop empirical evidence regarding the measurable benefits of the local food production and consumption. As a growing trend nationally, research and analysis regarding local food is emerging more frequently in an ever growing array of inter-disciplinary fields and practices. The development of the Metropolitan Food Systems Plan is reflective of a growing trend to recognize local food systems through public processes and policy. The development of the Metropolitan Food Systems Plan is an opportunity to more clearly understand the local opportunities of how local food can positively impact local conditions in the area.

Dynamics and Trends of Local Food and Local Food Production – Locally and Nationally

Most local food is transacted to the consumer at either farmers markets and or CSAs. In all cases, farmers markets and CSAs are on the rise nationally. The 2010 USDA Report points clearly to market forces at play regarding local food. According to the USDA, local food production and consumption is on the rise, and the dynamics of local food varies widely by region of the country.

As part of the early efforts of the CCFSI, a Food Systems Indicator Survey was developed to provide a base line report of local food and the local food systems. This information is laid out in detail starting on page 9. Key data from the *Food Systems Indicator Survey* reveal the following data regarding local food systems in both Cass and Clay County, referred to herein as the Metropolitan Statistical Area (MSA):

- As of the end of the year 2012, there were currently eight (8) farmers markets and two (2) produce stands within the MSA, most of which are located directly in the F-M Metropolitan area.

- The MSA has 0.038 farmers markets per 1,000 residents.

- As of 2012 it was reported that there were currently seven (7) total CSAs serving the F-M Metropolitan area; of which there were 2,320 subscribers, up from 135 in 2007.

- Within the MSA there are a total of 13 community gardens.

- As of 2007, there were a total of 31 farms in the MSA providing for *direct to consumer* sales of food products.

These data sets are important to monitor and track over time to understand the changing conditions of the local food systems within both counties, and specifically within the F-M Metropolitan area. When tracked over time, this data will show how the conditions of the local food systems are changing or being influenced by various public or private initiatives.

Based in large part on data provided in the 2010 USDA report, local food is most successfully distributed *direct to consumers* when produced in close proximity to medium or larger sized metropolitan areas. According to the 2007 Census of Agriculture, proximity to the medium or large sized metropolitan areas improves the market place for the sale of locally grown/ produced food, with national data suggesting that most *direct sales farms* are located in metropolitan counties, as opposed to more rural counties. Given the agricultural conditions in the exurban and rural areas adjacent to the F-M Metropolitan area, the conditions appear appropriate to foster the development and improvement of the local food system within the MSA.

Producer/ grower barriers outlined by USDA relate directly to conditions and forces which can only be addressed by collectively brining to bear both public and private resources. Without question, food production in the United States is the by-product of two centuries or more of both public (policy) and private investments in the food production and distribution systems. Support and expansion of the local food systems of the F-M Metropolitan area will require the same.

The development of the Metropolitan Food Systems Plan aims specifically at putting in motion cooperative efforts to improve access to healthy food as well as improve the production and distribution of locally grown/ produced food. The more overarching barriers outlined by the USDA provide a meaningful starting point to initiate the development of more specific strategies and public actions to support and improve the production and distribution capacity of local food.

Barriers to Local Food Production & Distribution

According to the USDA several barriers present themselves regarding the development and expansion of *direct to consumer* food production. Work completed as part of the Metropolitan Food Systems Plan indicates that these barriers are present at not only a national level, but at the local level as well, resonating with efforts to develop local food within the F-M Metropolitan area. These barriers have been grouped by the USDA into five (5) overarching areas:

- Capacity Limitations – The efficiencies of smaller growers/ producers are constrained by their relative size and inability to react to market conditions.

- Lack of Infrastructure (to increase production) – Smaller producers and growers lack adequate resources to efficiently distribute their product(s) and suffer from inefficient market conditions for reaching consumers in a cost effective manner.

- Traceback Mechanisms – Smaller producers and growers are limited by the concerns with reliability and quality, increasing the relative perception of consumer risks, specifically retail/ service consumers who would resell or redistribute the products.

- Lack of Expertise and Training – Producers/ growers of local food typically lack certain skills regarding marketing and accounting, which hinders access to retail and service markets. Additional training needs exist in agricultural practices as well as packaging and distribution techniques.

- Regulatory Uncertainties – Local food producers/ growers face uncertainty regarding variations in local, State, and Federal rules regarding food production and distribution; there is no clear local recognition in land use and development ordinances addressing food production, specifically at the residential or community garden scale.

As discussed later, a series of interrelated strategies and action steps are needed to fully address these barriers at the local level.

Stakeholder Consultation and Public Involvement

Ongoing Work of CCFSI, Task Forces, and Stakeholder Groups

As stated earlier, the CCFSI created and defined five (5) task force groups populated by individuals associated with the local food system. The groups' original framework focused on Economic Development, Food Access, Food Infrastructure, Outreach and Education, and Urban Agriculture. Since their creation in 2010, these five (5) task force groups have merged into three (3) groups; Economic Development merged with Food Infrastructure and Food Access merged with Outreach and Education.

For the past three years, these task force groups have met monthly to discuss the issues and opportunities of specific areas of the local food system.

CCFSI held large task force meetings quarterly that brought together all the task force groups to provide updates and briefings on the Metropolitan Food Systems Plan.

Public Input

Metro COG has completed several public input activities to identify needs, issues, and opportunities within the food systems of the F-M Metropolitan area. Metro COG is using its Public Participation Plan to ensure it gains insights into the community's vision for the future of the Metropolitan Food System. To date, Metro COG has held eight (8) focus group meetings and one public input meeting.

Focus Group Meetings

On March 19 and 20, 2013 Metro COG held eight (8) focus group meetings at the Fargo Public Library to gather input from a range of interested persons and stakeholders form various sectors of the local food system. These meetings were formed based on the five (5) functional focus areas and task groups, identified earlier, and three (3) additional groups focused on Environmental Justice, Land Use, and Grocers. Meeting announcements were distributed widely to members of the CCFSI's task force groups as well as to Metro COG's list of food system related interested persons and stakeholders.

Public Input Meeting #1

Metro COG held a public input meeting at the Fargo Public Library on March 19, 2013, which served as the first public input meeting in support of the Metropolitan Food Systems Plan. The meeting was advertised to the public via box ads in the Forum of Fargo-Moorhead. Meeting announcements were given to city officials, members of social service organizations, and other food system related interested persons and stakeholders.

As part of notifications for the first public input meeting, Metro COG made available a public information packet documenting certain existing conditions within the local food systems and outlining the purpose and intent of the Metropolitan Food Systems Plan. Metro COG also developed a geographic profile to show current elements of the local food system. All materials developed by Metro COG were posted on its web page.

The public input meeting was an open house format, with a brief presentation. Metro COG made available food access maps, detailing the existing conditions and accessibility of local food, allowing attendees to provide input and ideas regarding the existing and future conditions of the Metropolitan Food System. The first public meeting was attended by roughly twenty (20) members of the public. There were residents and interested persons from throughout the F-M Metropolitan area.

A summary of the comments received both in person and in writing as part of the first public meeting are outlined in the following section. A detailed compilation of public comments is included in Appendix 1.

Summary of Public Comments

In general, public comment regarding the Metropolitan Food System Plan shared one common theme, and that was that efforts should be made to promote the consumption of local food by the public. It was generally recognized that additional community gardens, farmers markets, and neighborhood markets would benefit emerging food desert neighborhoods and the entire F-M Metropolitan area. Public support appeared for policies to expand urban agricultural opportunities where there is underutilized land that could be used to grow and/ or sell local food. Overall, there was support for efforts to support the local food systems. Comments are summarized to fall under the five (5) major focus areas.

Economic Development

Based on input from producers and institutions, it is apparent that in many cases, local food sales are currently less profitable for growers and buyers. For this reason, many local farmers sell their products outside of the F-M Metropolitan area. Restaurants and institutions also find that purchasing non-local products is easier and less expensive. There appeared to be clear support for methods that would make local food production and sales beneficial for both growers and buyers.

Food Access

There was a strong sentiment suggesting the need to increase local access to healthy food, especially in areas with minority, low-income, elderly, and other at-risk populations. Residents, city officials, and other stakeholders felt that the addition of healthy food sources such as community gardens, farmers markets, and neighborhood markets would have a positive social and economic impact on neighborhoods within the F-M Metropolitan area.

Food Infrastructure

Public input indicated the Metropolitan Food Systems Plan should improve the local food infrastructure, which is less evolved than the infrastructure of larger urban areas. To do this would involve addressing barriers between producers and institutions, such as volume and regulations, which were brought to light during input meetings. It was suggested at several meetings that a distributor would facilitate a relationship between growers, consumers, and institutions, alleviating some issues created by the local food infrastructure. Growers and buyers agreed that due to current barriers, restaurants and smaller institutions may be more feasible buyers for the time being.

Outreach and Education

There is an interest in improving outreach and education regarding local foods. Residents feel that the outreach and education regarding local foods should increase public awareness of local food options, as well as teach consumers how to prepare and preserve local food. Strong support appeared by school officials, as well as members of the public, for using school kitchens to bring local food into the lives of students, their families, and the surrounding community. Incorporating local food into schools, institutions, libraries, and community events, is seen as one way to increase public awareness. It is thought that improving public awareness of local food will increase interest, consumption, and involvement. Educating the public and decision makers will improve the possibility of progress.

Urban Agriculture

There is strong support for zoning and policy changes that would expand the potential of urban agriculture to improve access to healthy, affordable food options. It was felt that underutilized land in the F-M Metropolitan area should be used for the production and sale of local foods. Residents are in favor of community gardens, farmers markets, and other forms of urban agriculture but have concerns over their maintenance, supervision, and safety. It was suggested that outreach and education would help remedy these concerns.

The public input gathered at these meetings was used to evaluate the issues and create strategic goals and outcomes beginning on page 30.

FRAMEWORK FOR UNDERSTANDING THE LOCAL FOOD SYSTEM

Assessing the local food system within the F-M Metropolitan area was done by looking at four specific issues regarding food in general. Food access and infrastructure was measured based on the availability of healthy and affordable foods. Health outcomes and community health indicators used statistics on obesity, diabetes, nutrition, and physical activity. Data like individuals served by food shelves, WIC, SNAP, and Free and Reduced School Lunch programs guided the analysis on food security. Urban Agriculture and Land Use evaluated the existing markets and zoning codes to gauge codified support for local food systems. The four areas are roughly constructed around the original task force structure of CCFSI

Food Access/ Food Infrastructure

Food access is a term that refers to the ability to obtain healthy, affordable food. Access to food can be compromised for many reasons. There may be no grocery stores in particular areas or stores are difficult to get to without a vehicle. Food that is available may not be affordable, or even healthy, if concentrations of stores and restaurants offer predominately convenience foods. Limited knowledge is another challenge to food access, when consumers may not know how to prepare, store, and preserve available healthy foods.

Food access is important because some residents and areas, especially those with low-income, face greater barriers in accessing healthy and affordable foods. These barriers may negatively

affect diet and food security. The Metropolitan Food Systems Plan aims to improve access to healthy and affordable food options, especially in neighborhoods that Metro COG has identified as emerging food deserts.

The Food Access task force researched other food systems' reports and then compiled a list of key indicators. Once compiled, the list of indicators was incorporated into an online survey and sent to the overall CCFSI group. Each CCFSI member was asked to identify the indicators they thought were the most important to their specific group (i.e. Food Access, Outreach and Education, Economic Development, Urban Agriculture, and Food Infrastructure). A Clay County Public Health intern then collected data, using a variety of sources that were pertinent to the key indicators.

Information presented in Tables 1 through 3 is the result of the CCFSI data collection process that was conducted in 2012. The data are categorized into Outreach and Education, Economic Development and Food Infrastructure, Food Access, and Urban Agriculture.

Table 1. Outreach and education in Cass and Clay Counties: 2012

Item	Number
Number of school gardens	5 (3 gardens, 2 orchards)
Growth in number of school gardens since 2010	4
Number of individual schools (of 54) that utilize local food*	32
Number of school districts (of 15) that utilize local food*	6
Number of childcare facilities that utilize local food (18% of facilities contacted)*	10

*Of those institutions reporting any use of local food, the percent of food budget spend on local food averaged ≤8% for schools and ≤5% childcare facilities and was often one or two products i.e. Saladmakers or Breadsmith

Table 2. Economic development and food infrastructure in Cass and Clay Counties: 2012

Item	Number
Number of distributors/processors that utilize local food	16
Number of food distributors and food processors (locally/ regionally)	66
Number of restaurants that serve local food (seasonally adjusted) 25% of restaurants contacted	18
Number/location of local food processing facilities and community kitchens available for use by the public	1
Number/location of local food processing facilities and community kitchens available for non-profit educational use	2
Item	**Percent**
Percent of institutional food purchases from local sources	41% of long-term care facilities
Percent of convenience stores carrying fresh vegetables (Fargo-2009)	9.5%
Percent of convenience stores carrying fresh fruit (Fargo-2009)	19%

Table 3. Food Access in Cass and Clay Counties by year

Item	Area	Number	Year
Number of farmers' markets that accept **Senior** Farmers' Market Nutrition Program (FMNP) coupons	Cass-Clay	0	2012
Number of farmers' markets that accept WIC fruit and vegetable vouchers	Cass-Clay	0	2012
WIC use of fruit and vegetable farmers' market vouchers	Cass	0	2012
	Clay	0	2012
Number of farmers' market vendors that accept SNAP	Cass-Clay	2	2013
Individuals served by a charitable feeding network	Cass-Clay	23,283	2011
Grocery store/1000 people	Cass	0.11	2008
Grocery store/1000 people	Clay	0.13	2008
Fast food restaurants/1000 people	Cass	0.67	2008
Fast food restaurants/1000 people	Clay	0.39	2008
Restaurant expenditures per capita (dollars)	ND	564.00	2007
Restaurant expenditures per capita (dollars)	MN	646.00	2007
Fast food expenditures per capita (dollars)	ND	492.00	2007
Fast food expenditures per capita (dollars)	MN	579.00	2007
Item	County	Percent	Year
Percentage of low-income households that are > 1 mile to the grocery store	Cass	4.8%	2006
Percentage of low-income households that are > 1 mile to the grocery store	Clay	11.5%	2006
Percentage of households with no car and >1 mile to grocery store	Cass	1.0%	2006
Percentage of households with no car and >1 mile to grocery store	Clay	2.3%	2006
Percentage of population with incomes at or below the federal poverty level	Cass	12.8%	2006-2010
Percentage of population with incomes at or below the federal poverty level	Clay	12.0%	2006-2010
Percent low-income receiving SNAP	Cass	24.2%	2007
Percent low-income receiving SNAP	Clay	27.9%	2007
Children receiving SNAP (% of population ages 0-18)	Cass	21.5%	2010
Children receiving SNAP (% of population ages 0-18)	Clay	20.8%	2011
Children receiving free and reduced-priced lunch (% of school enrollment)	Cass	26.1%	2010
Children receiving free and reduced-priced lunch (% of school enrollment)	Clay	32.5%	2011
Percent of people below 185% of poverty level	Fargo-Moorhead Metropolitan Area	25.6%	2006-2010

Geographic Profile – Food Access & Food Infrastructure

Metro COG has prepared two (2) maps which demonstrate various aspects of the local food system. A description of the data used to create each map and a brief overview follows.

Bicycle Facilities – Represent either on road bicycle facilities (striped or signed roadways) and separated bicycle/ pedestrian facilities (shared use paths) as identified by Metro COG. These facilities are identified to indicate geographic areas considered to be served by bicycle and pedestrian facilities. Existing bicycle and pedestrian facilities are shown in both Maps 1 and 2 in relation to other food system attributes.

Community Gardens – Represent organized community gardens that provide plots of land for the production of produce. A community garden is a plot of land gardened by area residents. The land can be publically or privately owned and can be gardened by either the owners of the land or members of the public that join the garden, or both. True community gardens are open to the general public and provide an area to grow fruits and vegetables. The garden is divided into plots which can be owned by individuals or groups. Whether or not there is a cost associated with claiming a plot is up to the owner(s) of the land. In some cases they are public gardens, and in other cases they are privately operated and not open to the general public. Of the thirteen (13) existing community gardens in the F-M Metropolitan area, only half are available to the general public. Others are available through religious, housing, and other local service organizations. As is shown in Map 2, a total of 7,536 households currently reside within one-half mile of a community garden.

Convenience Store – Represent neighborhood scale convenience stores (often times gas stations, dollar stores, drug stores, etc.). While food products are offered at most convenience stores, the options are not generally considered to be as healthful as would be offered at a traditional grocery store. Map 1 shows existing convenience stores in the F-M Metropolitan area in relation to other food system attributes.

Emerging Food Deserts – *Food deserts* have been defined by the USDA as an area with limited access to affordable and nutritious food, particularly if the areas are composed of predominately low income communities. Based on a geographic alignment of existing grocery stores in the F-M Metropolitan area, Metro COG has established a preliminary list of *emerging food deserts. Emerging food deserts* are areas where there is currently no grocery store within one-half mile of a residential neighborhood. For the benefits of this analysis, Metro COG has focused closely on areas where there appears to be a relative concentration of low-income or minority populations, as defined by Metro COG. Another variable in emerging food deserts are areas with a higher density of households without access to a vehicle. In two cases, an emerging food desert covers portions of residential areas served by existing elementary schools where more than fifty (50) percent of the student population is receiving free or reduced lunch (Madison and Jefferson). Both Maps 1 and 2 identify the emerging food deserts in the F- M Metropolitan area.

Environmental Justice Areas – Pursuant to Executive Order 12898, Metro COG is required to implement Environmental Justice as part of its planning program, specifically regarding the development of area-wide or sub-area planning and programming activities. In November, 2011 the Metro COG Policy Board approved an updated Environmental Justice database identifying concentrations of low-income and minority populations in the F-M Metropolitan area. Metro

COG defines an area as having a concentration of low-income individuals if the median household income of a block group (based on 2005-2009 American Community Survey [ACS]) is less than 125% of poverty (as defined by Health and Human Services [HHS]). Metro COG defines an area as having a concentration of minority populations if the population of a block group is greater than twenty-five (25) percent non-white (based on the 2010 Census). Environmental justice areas are shown on both Maps 1 and 2.

Ethnic Grocery Store – Represent smaller locally operated stores with a fairly narrow food selection targeted to specific ethnic group(s). Some of these stores have evolved to offer a limited selection of fresh meats and produce. Ethnic grocery stores are considered a potential transaction point for *direct to consumer* or *direct to retail/ service* of local food due to their central locations and proximity to environmental justice areas and minority households. Map 1 illustrates the existing ethnic grocery stores in relation to other attributes associated with the F-M Metropolitan food system.

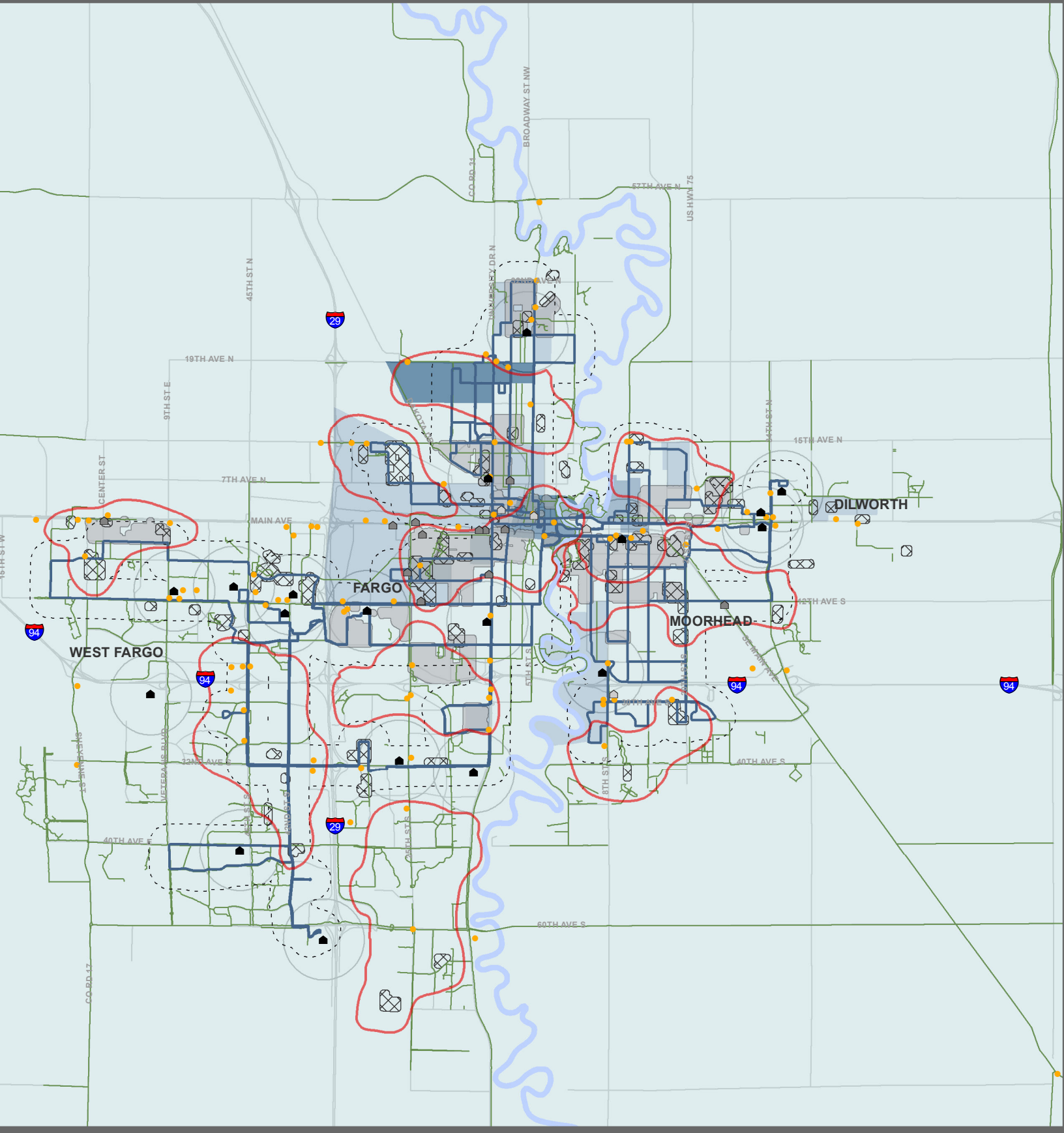
Farmers Markets – Represent organized markets where sellers of locally produced food and food-related products are sold to the consumer. Farmers markets are considered to be a primary transaction point for the *direct to consumer* exchange of local food and provide a direct connection between the farmer and consumer. Farmers markets tend to be seasonal and their hours of operation vary widely. Map 2 shows the location of existing farmers markets in the F-M Metropolitan area.

Grocery Stores - Represent traditional grocery stores (Hornbacher's, Cash Wise, Sun Mart, etc.) or supercenters (Target, Wal-Mart, Costco, etc.). Map 1 demonstrates the location of existing grocery stores in the F-M Metropolitan area. For the purposes of demonstrating accessibility, a one-half mile buffer was applied to each grocery store depicting, what is considered, a reasonable walking distance. There are a total of eighteen (18) grocery stores/ supercenters within the F-M Metropolitan area. The new Costco at I-94 and Veterans Boulevard is the only grocery store/ supercenter that is not currently along a MATBUS route, or within the one-quarter mile transit buffer identified on Map 1.

Health Food Store – Represent smaller, locally run stores which sell varied local, natural, or organic food products. Map 1 depicts existing health food stores in the F-M Metropolitan area. Health food stores are considered a potential transaction point for *direct to consumer* or *direct to retail/ service* exchange of local food.

MATBUS Routes – Represent the fixed route system of MATBUS. MATBUS routes typically run on 15, 30, or 60 minute headways, and run from 6:45 am to as late as 11:15 pm. The existing MATBUS system is shown on Map 1 in relation to other food system attributes. Metro COG has applied a one-quarter mile buffer of the existing MATBUS system to demonstrate areas considered to be adequately served by public transit.

Vehicle Access – Map 1 demonstrates vehicle access constraints within the F-M Metropolitan area by showing the geographic density of households which lack access to an automobile in the F-M Metropolitan area. Areas with a higher density of households without access to an automobile also align closely with minority and low-income areas (e.g. Madison Neighborhood) and/ or are college campus areas (e.g. NDSU).



Food Access Map

Map 1

Accessibility

No Vehicle Households

- 0 - 5%
- 6 - 10%
- 11 - 20%
- 21 - 40%
- 41 - 60%

Food Sources

- Grocery Store
- Ethnic Grocery Store
- Health Food Store
- Convenience Store
- Grocery Store Radius - 1/2 Mile

Bicycle & Pedestrian Facilities

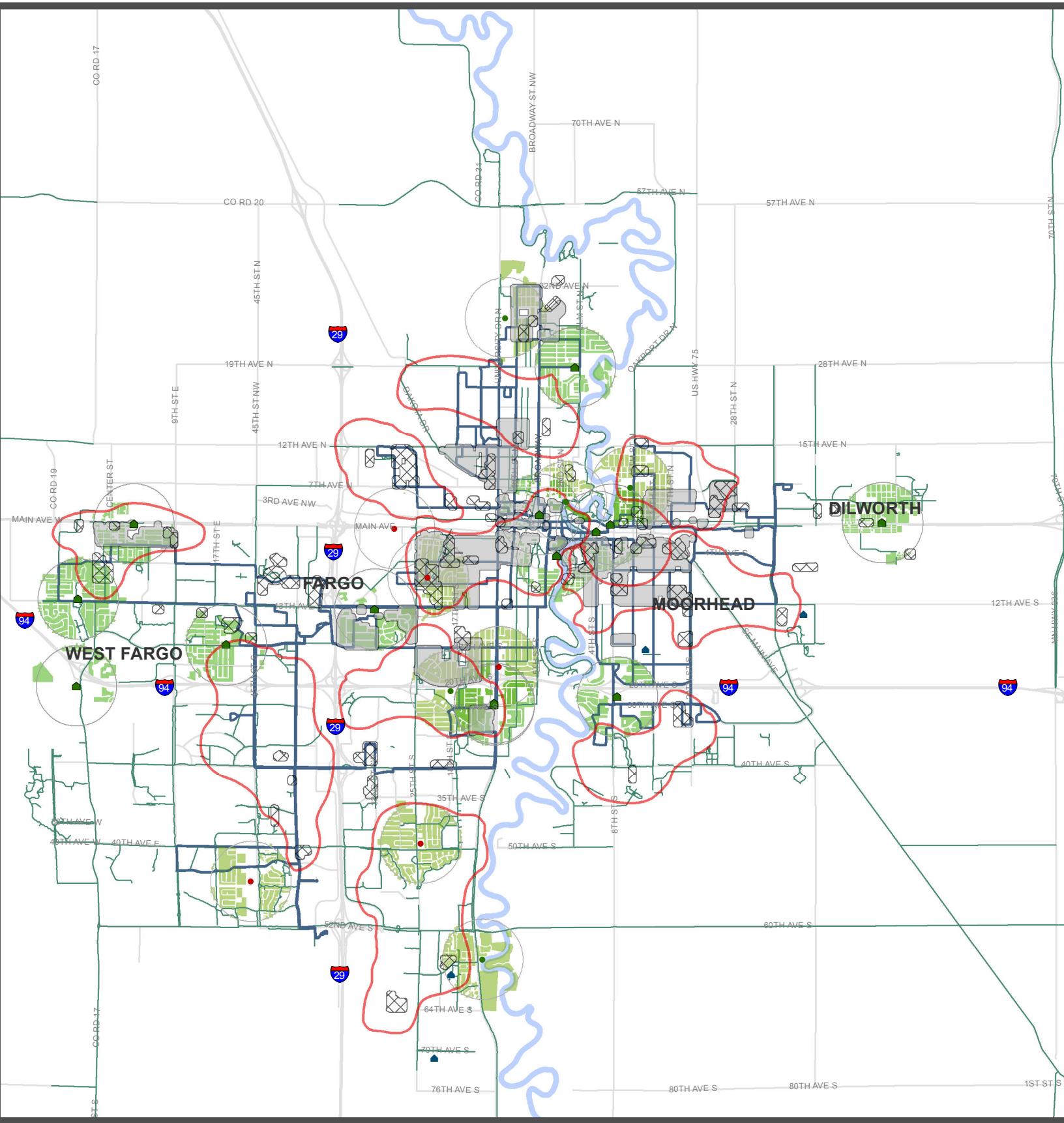
- Bicycle Facilities
- Transit Facilities
- Transit Buffer - 1/4 Mile

Environmental Justice Areas

- Minority Areas
- Low Income Areas
- Emerging Food Deserts

N

0 0.5 1 2 Miles



Existing Gardens and Farmers Markets

Map 2

Local Food Sources

Community Gardens
- Private
- Public

School Gardens

Farmers Markets

Local Food Areas

Households within 1/2 mile of a Community Garden

Households within 1/2 mile of a Farmers Market

Radius - 1/2 Mile

Bicycle & Pedestrian Facilities

Bicycle Facilities

Transit Facilities

Environmental Justice Areas

Minority Areas

Low Income Areas

Emerging Food Deserts

N

0 0.5 1 2 Miles

Health Outcomes & Community Health Indicators

There are many economic, social, and health benefits to increasing the accessibility of healthy and locally grown food. Studies of other food systems have shown that residents in areas with limited access to healthy foods experience high obesity rates and higher rates of residents dying prematurely from diabetes, cancer, and heart disease. Obesity and diabetes are two serious health conditions related to quality of diet that are on the rise among residents of the F-M Metropolitan area. The Metropolitan Food Systems Plan aims to better integrate healthy food into the local food system for local consumption. Locating healthy and local food access points in areas defined as emerging food deserts will improve the health of communities, especially those with more vulnerable populations.

The Centers for Disease Control and Prevention has declared obesity a national epidemic. Nationwide, more than 72 million adults and about 12.4 million children, ages 2 to 19, are obese. Obesity contributes to many health problems, such as heart disease, stroke, cancer, and diabetes. Consequences of obesity include lower quality of life and higher medical costs. This places a significant financial burden on the nation's medical care system. Recent estimates suggest that $147 billion is spent annually for medical care costs associated with obesity.

Obesity happens when an individual consumes more calories than are used with daily activities and exercise. The abundance of fast-food restaurants, convenience stores, and vending machines make it much easier to eat unhealthy food that is higher in calories and fat than food prepared at home. In addition, many people have limited or no access to healthy, affordable food such as fresh fruits and vegetables, something particularly challenging for people who are minority, low-income, or rural.

There are many reasons why low-income and food insecure (i.e. food deprived) people are vulnerable to being overweight or obese. One reason is that limited resources can make healthy foods, which are usually more expensive, cost prohibitive. In addition, due to lack of transportation, residents may have to shop at small, local convenience and corner stores which often lack a wide variety of fresh fruits and vegetables, whole grains, and low-fat dairy products that are typically found at large-scale grocery stores and farmers markets. Also, lower income neighborhoods typically have fewer opportunities for physical activity (i.e. parks, green spaces, bike paths, and recreational facilities) than higher income neighborhoods. Low-income children are less likely to participate in organized sports because of cost and transportation barriers, limiting opportunities for engaging in physical activity.

Obesity and lack of physical activity are risk factors for diabetes. Diabetes is the leading cause of kidney failure and a major cause of heart disease and stroke; it is the seventh leading cause of death in the nation. In 2010, 26.9 percent of U.S. residents, or 10.9 million people, aged 65 and older had diabetes. The CDC also estimates that one in three or 79 million Americans aged twenty or older had prediabetes. Among people younger than twenty years of age, about 215,000 had diabetes.

The following links to the Center for Disease Control and the Food Research Action Center provide more information about adult and childhood obesity and diabetes.

http://www.cdc.gov/obesity/
http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2011.pdf
http://frac.org/initiatives/hunger-and-obesity/are-low-income-people-at-greater-risk-for-overweight-or-obesity/

Health Indicators in the F-M Metropolitan Region

This section focuses on characteristics of the F-M Metropolitan area; specifically overweight, obesity, and diabetes, healthy eating, nutrition, and physical activity, food (in) security, and a demographic profile detailing an age, ethnicity, and poverty.

The following information is helpful to understanding the data which support the need to improve the food choices and healthy food availability within the F-M Metropolitan area. It provides a baseline set of data which demonstrate the relative health of the residents within the F-M Metropolitan area. This data can be used to track progress towards benefits in community health brought about by improvements in the local food system.

Overweight, Obese, and Diabetic

Within the Fargo-Moorhead area, proportions of adults who are overweight, obese, or diabetic reflect proportions nationwide (Table 4).

- In 2011, more than one in three adults were overweight (36.8 percent); one in four were obese (25.4 percent).
- Nearly one in ten adults in 2010 had diabetes (8.5 percent).
- In 2010, more than one in four adults (26.6 percent) indicated they had no leisure time exercise or physical activity in the past thirty days.

Table 4. Percentage of adults reporting overweight, obese, or diabetes by geography: 2010-2011

Health risks	Percentage of adults*			
	Fargo/Moorhead Metropolitan Statistical Area	North Dakota	Minnesota	Nationwide
Overweight (2011) (BMI 25.0-29.9)	36.8	36.0	36.8	35.7
Obese (2011) (BMI 30.0-99.8)	25.4	27.8	25.7	27.8
Diabetes (2010)	8.5	7.4	6.7	8.7
Exercise (2010)**	26.6	24.8	19.1	23.9

*Source: Centers for Disease Control Behavioral Risk Factor Surveillance System (BRFSS); 2010 and 2011
**No leisure time exercise or physical activity in the past 30 days.

- In 2011, 13.2 percent of youth, grades nine through twelve, in the Region V-Fargo area were overweight; 10.0 percent were obese (Table 2).

Table 5. Percentage of youth grades (9-12) in North Dakota overweight or obese: 2011

Health risks	Percentage of youth		
	Region V Fargo Area*	North Dakota	Nationwide
Overweight (BMI 25.0-29.9)	13.2	14.5	15.2
Obese (BMI 30.0-99.8)	10.0	11.0	13.0

Source: Centers for Disease Control Youth Risk Behavior Survey (YRBS); 2011
*Region V Fargo Area includes the following counties: Cass, Steele, Traill, Ransom, Sargent, Richland

- In 2010, 14.0 percent of Clay County 9th graders were overweight; 9.0 percent were obese (Table 6).

- In 2010, 14.0 percent of Clay County 12th graders were overweight; 12.0 percent were obese.

Table 6. Percentage of youth (grades 9 and 12) in Minnesota overweight or obese: 2010

Grade	Percentage of youth			
	Clay County		Minnesota	
	Overweight	Obese	Overweight	Obese
9th grade	14.0	9.0	13.0	9.0
12th grade	14.0	12.0	12.0	9.0

Source: Minnesota Department of Health; Minnesota Student Survey 2010

- In 2010, more than one in four children ages two through five were either overweight or obese (27.9 percent); 11.6 percent were obese (Table 7).

- In 2010, one in three children ages 6 through 18 were either overweight or obese; one in five were obese.

Table 7. Percentage of overweight and obese children in clinic service area by age group

Age in years	Percentage of children*		
	Overweight (>85th percentile and <95th percentile BMI)	Obese (≥ 95th percentile of BMI)	Total Overweight and Obese
2-5 years	16.3	11.6	27.9
6-8 years	14.1	18.4	32.5
9-12 years	15.0	20.3	35.3
13-18 years	14.2	19.0	33.2

Source: Minnesota Department of Health; Minnesota Student Survey 2010

Healthy Eating, Nutrition, and Physical Activity

Poor diet is a risk factor associated with development of chronic disease, obesity, and other health problems. Many dietary components are involved in the relationship between nutrition and health. Primary concerns include consuming too much sugar and saturated fat, and too few fruits, vegetables, and whole grain products that are high in vitamins, minerals, fiber, and other substances important to good health.

Fruits and vegetables, as part of a healthy diet, are important for optimal child growth, weight management, and chronic disease prevention. Also important for optimal health, is participating in at least thirty (30) minutes of physical activity for at least five (5) days a week.

- In 2010, 18.0 percent of sixth grade students in Clay County ate five (5) or more servings of fruits, fruit juices, or vegetables, compared with 14.0 percent of students in twelfth grade (Table 8).

- In 2010, 56.0 percent of sixth grade students in Clay County were physically active compared to 47.0 percent of twelfth graders.

Table 8. Percentage of youth, grades 6, 9, and 12, in Minnesota by health behaviors: 2010

Health behavior	Percentage of youth		
	6th grade	9th grade	12th grade
Clay County			
Ate 5 or more servings of fruits, fruit juices, or vegetables yesterday	18.0	17.0	14.0
Were physically active for at least 30 minutes on at least 5 of the last 7 days	56.0	58.0	47.0
State of Minnesota			
Ate 5 or more servings of fruits, fruit juices, or vegetables yesterday	21.0	18.0	17.0
Were physically active for at least 30 minutes on at least 5 of the last 7 days	48.0	56.0	44.0

Source: Minnesota Department of Health, Minnesota Student Survey: 2010

- In 2011, less than one in five Fargo students in grades nine through twelve, ate fruits and vegetables five or more times a day (17.9 percent) (Table 6).

Table 9. Percent of students grades 9-12 who ate fruits and vegetables five or more times per day, during the last seven days by location and year

Geography	Percentage of students by year		
	2007	2009	2011
Fargo*	18.3	17.2	17.9
Region 5**	17.7	15.6	16.1
North Dakota	16.6	13.7	17.4
United States	21.4	22.3	NA

Source: Snap Shot (CDC YRBSS - Fargo Public Schools, ND DPI)
**Raw data is not weighted by age or gender for Fargo*
**Region 5 includes the following North Dakota counties: Cass, Ransom, Richland, Sargent, Steele and Trail.

In 2009, 26.1 percent of adults in the F-M Metropolitan area consumed fruits and vegetables five or more times per day. http://apps.nccd.cdc.gov/BRFSS-SMART/MMSARiskChart.asp?yr=2009&MMSA=31&cat=FV&qkey=4415&grp=0

Food Security

The World Health Organization (WHO) describes food security as being built on three pillars: food availability, food access, and food use. The WHO also indicates that matters pertaining to whether households get enough food, how the food is distributed, and whether that food fulfills the dietary needs of everyone in the household show that food security is clearly linked to health.

Food security is a household-level economic and social condition of limited or uncertain access to healthful food. Households with low food security have disrupted eating patterns and reduced food intake due to lack of money or other resources for food. Improving the local food options within the F-M Metropolitan area could not only improve the area's overall health, but its food security as well.

The Great Plains Food Bank (GPFB) is a charitable feeding network within the state of North Dakota and western Minnesota. In 2012, data gathered by the organization revealed that increasing numbers of individuals in the Cass-Clay area are relying on food shelves to meet their food needs (Table 10).

- One in nine people in the Cass-Clay area were using the GPFB network; 37 percent were children.
- Nearly 24,000 unduplicated individuals were served through the GPFB in 2012.
- The average monthly number served was 15,210; 12,178 were served at emergency feeding programs.
- There are 60 partner agency sites participating, including food pantries, soup kitchens, shelters, and other non-profit agencies that serve meals to low-income individuals. Those partner agencies:
    - Provided 132,342 food baskets
    - Served 928,448 meals

Table 10. Duplicated number of individuals served by shelter and non-shelter food shelves in Fargo and the F-M Metropolitan area: 2003-2010

Year	Food Shelves			
	Individuals Served Fargo	Percent Change	Individuals Served Metro*	Percent Change
2003	29,152	n/a	49,474	n/a
2004	30,886	+5.9%	52,437	+6.0%
2005	32,132	+4.0%	54,001	+3.0%
2006	30,897	+3.8%	55,706	+3.2%
2007	31,873	+3.2%	58,404	+4.8%
2008	41,653	+23.0%	66,322	+12.0%
2009	47,446	+12.0%	79,434	+17.0%
2010	51,213	+7.8%	90,299	+12.0%
2011	56,196	+9.7%	100,131	+10.9%
2012	61,314	+9.1%	109,715	+9.6%

Source: Great Plains Food Bank
*Metro includes Fargo, West Fargo, and Moorhead

The American Journal of Clinical Nutrition states: "the rates of obesity and type 2 diabetes in the United States follow a socioeconomic gradient, such that the burden of disease falls disproportionately on people with limited resources, racial-ethnic minorities, and the poor. Among women, higher obesity rates tend to be associated with low incomes and low education levels." http://ajcn.nutrition.org/content/79/1/6.full

WIC

The Women, Infants, and Children (WIC) program is a nutrition program that helps eligible pregnant women, new mothers, babies, and young children eat well, learn about nutrition, and stay healthy. WIC provides nutrition education and counseling, nutritious foods, and referrals to health and other social services. To qualify, participants must meet income guidelines and have a medical or nutritional need.

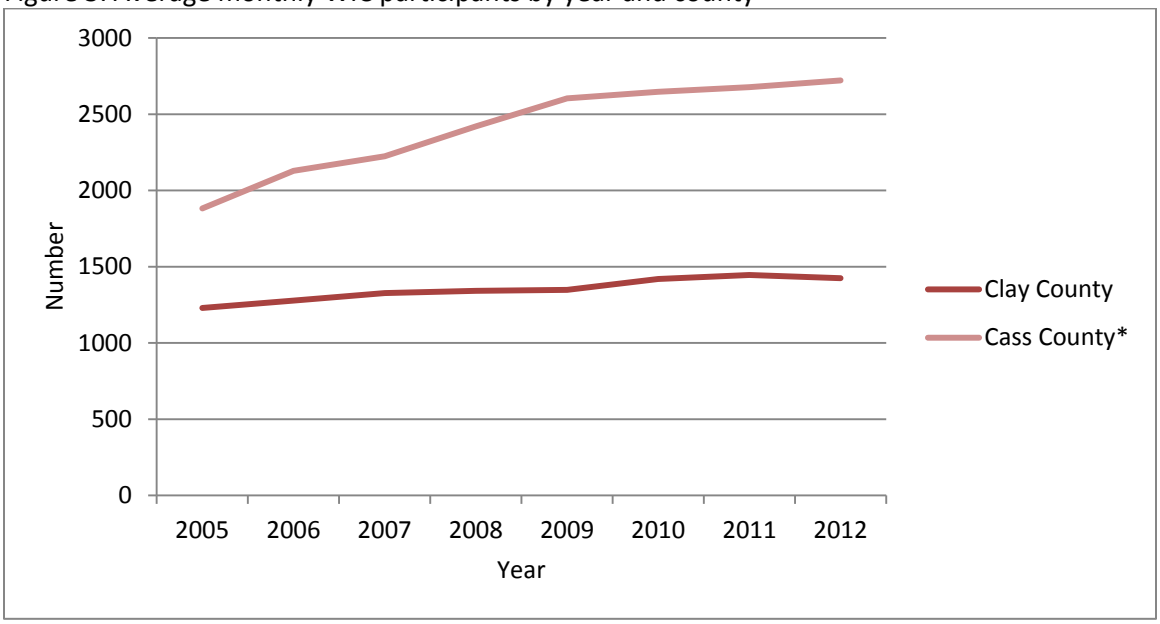
The number of WIC participants in Clay and Cass Counties has steadily increased since 2005, with a slight dip in 2012 (Table 11 and Figure 3).

Table 11. Total number of WIC participants by year and county

County	Total number of participants by year							
	2005	2006	2007	2008	2009	2010	2011	2012
Clay	16,103	15,336	15,927	16,103	16,175	17,024	17,357	17,099
Cass	22,584	25,548*	30,000	32,472	35,184	36,156	36,444	37,584

Source: Clay County Public Health WIC Department and Fargo Cass Public Health WIC Department
*Computer software conversion – incomplete data.

Figure 3. Average monthly WIC participants by year and county



Source: Clay County Public Health WIC Department and Cass County WIC Department
*Cass County data are average enrollments per month.

SNAP

The Supplemental Nutrition Assistance Program (SNAP) offers nutrition assistance to millions of eligible, low-income individuals and families nationwide and provides economic benefits to communities. SNAP is the largest program in the domestic hunger safety net. The USDA Food and Nutrition Service (FNS) works with state agencies, nutrition educators, and neighborhood and faith-based organizations to ensure that those eligible for nutrition assistance can make informed decisions about applying for the program and can access benefits. FNS also works with state partners and the retail community to improve program administration and ensure program integrity.

- The number of individuals in Cass and Clay Counties served with the Supplemental Nutrition Assistance Program has steadily increased over the last several years (Table 12 a and b and Figure 4).

Table 12a. Cass County SNAP Participation by year

Month/year	Number of households	Number of individuals	Issuance for January
January 2007	3,290	6,860	$650,805
January 2008	3,704	7,893	$804,001
January 2009	4,193	9,067	$1,042,895
January 2010	5,191	11,277	$1,513,751
January 2011	5,615	12,198	$1,605,635
January 2012	5,694	12,350	$1,603,913

January 2013	5,885	12,759	$1,603,288

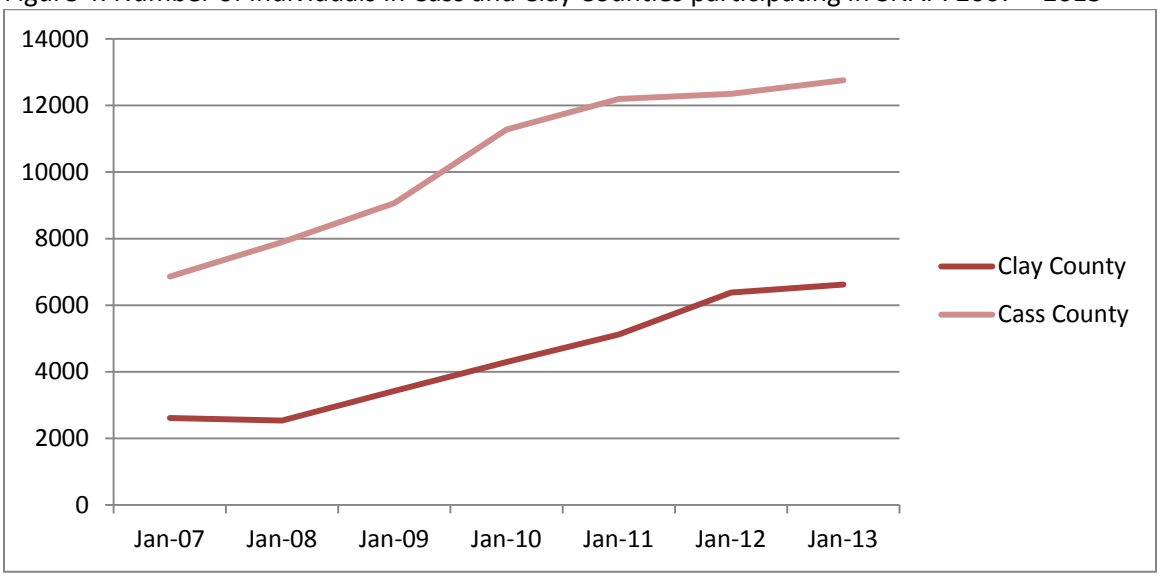
Source: Cass County Social Services

Table 12b. Clay County individual SNAP participation by month of January and year

Time frame	2007	2008	2009	2010	2011	2012	2013
Month of January	2,614	2,536	3,426	4,293	5,121	6,379	6,621
Yearly	31,745	34,877	46,579	55,130	64,587	76,272	NA

Source: Clay County Social Services

Figure 4. Number of individuals in Cass and Clay Counties participating in SNAP: 2007 – 2013

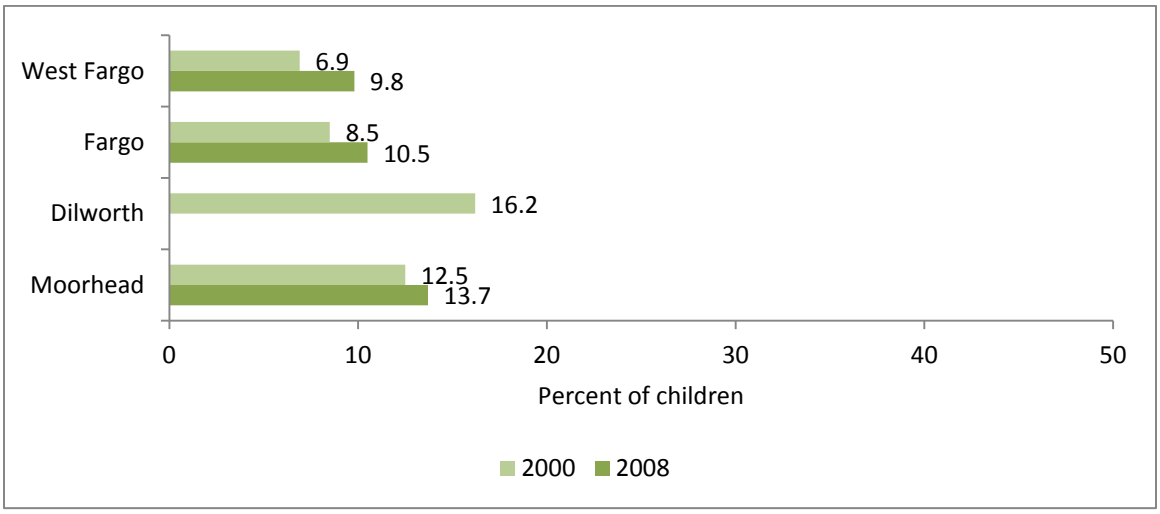


Source: Cass County Social Services; Clay County Social Services

School Nutrition Programs and Poverty

- The proportions of children living in poverty increased from 2000 to 2008 in West Fargo, Fargo, and Moorhead school districts (Figure 5)

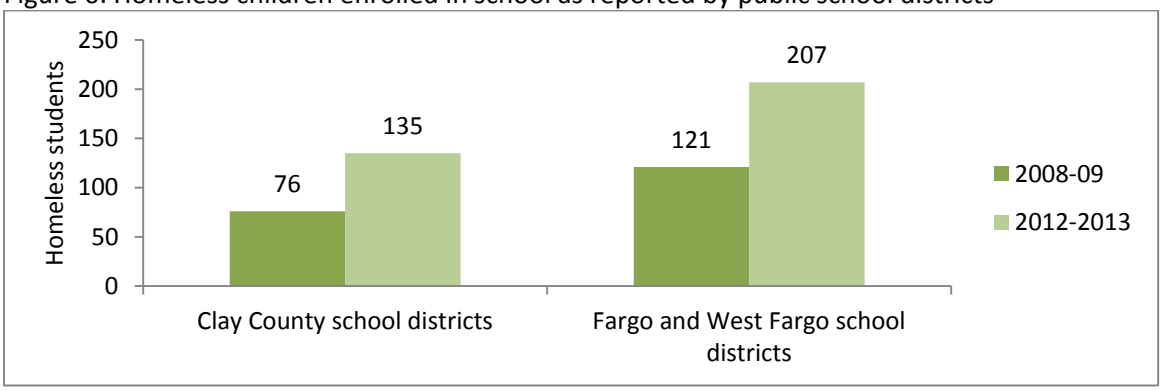
Figure 5. Children ages 5 to 17 – percent living in poverty by public school district: 2000 and 2008



Source: 2008 data – U.S. Census Bureau, 2006-2008 American Community Survey (ACS) 3-Year Estimates

- Figure 6 shows the number of homeless children enrolled in school by school year and district

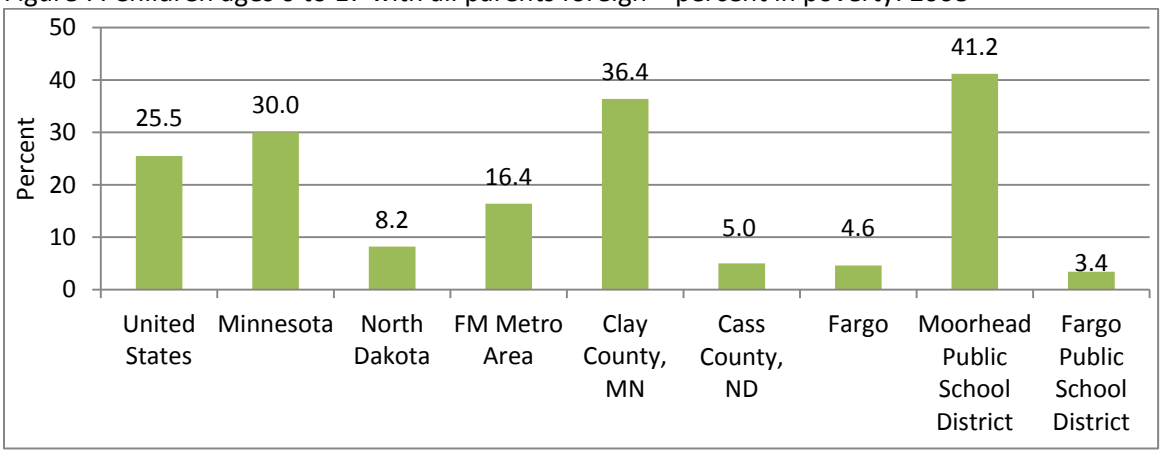
Figure 6. Homeless children enrolled in school as reported by public school districts



Source: 2008 data – U.S. Census Bureau, 2006-2008 American Community Survey (ACS) 3-Year Estimates

Figure 7 shows the proportions of children, zero to seventeen with all parents foreign, who were living in poverty in 2008.

Figure 7. Children ages 0 to 17 with all parents foreign – percent in poverty: 2008



Sources: Minnesota – Minnesota Department of Education, No Child Left Behind Programs, McKinney Vento-Act data. North Dakota – North Dakota Department of Public Instruction, special request.

- Schools with fifty percent or more free and reduced lunches are (Table 13):
  - Madison Elementary (79.3 percent)
  - Jefferson Elementary (69.7 percent)
  - McKinley Elementary (54.7 percent)
  - L E Berger Elementary (51.32 percent)
  - Ellen Hopkins Elementary (50.9 percent)

Table 13. Percent free and reduced lunch by school

School	Percent Free and Reduced
Moorhead Public Schools (for school year 2011-2012)	
Ellen Hopkins Elementary	50.9
Robert Asp Elementary	47.0
Horizon Middle School	37.5
S.G. Reinertsen Elementary	34.3
Moorhead High School	28.4
Fargo Public Schools (as of October 2012)	
Madison Elementary	79.3
Jefferson Elementary	69.7
McKinley Elementary	54.7
Carl Ben Eielson Middle	46.3
Lincoln Elementary	44.4
Lewis and Clark Elementary	39.3
Bennett Elementary	37.0
Agassiz	34.9
South High School	34.9
Horace Mann Elementary	33.3
Kennedy Elementary	33.3
Roosevelt Elementary	29.3
Hawthorne Elementary	29.1
Clara Barton Elementary	28.3
Ben Franklin Junior High	25.8
North High School	20.4
Washington Elementary	20.3
Discovery Middle School	19.1
Centennial Elementary	18.7
Fargo Davies High School	15.6
Longfellow Elementary	6.8
West Fargo Public Schools (May 2013)	
L E Berger Elementary	51.32
Eastwood Elementary	48.20
Clayton A Lodoen Kindergarten Center	46.58
Cheney Middle School	33.68
South Elementary	32.88
West Fargo High	29.59
Sheyenne 9th Grade Center	31.27
Westside Elementary	31.50
Freedom Elementary	27.02
Osgood Kindergarten Center	23.50
Aurora Elementary	17.82
Stem Center	18.07
Horace Elementary	9.25
Harwood Elementary	5.50

Source: Minnesota Department of Education and North Dakota Department of Public Instruction.

Urban Agriculture and Land Use

There is no shared common definition for urban agriculture. However, in short, urban agriculture is the growing, processing, and distributing of food and food products through intensive plant cultivation and animal husbandry in and around cities. In the context of the F-M Metropolitan area, urban agriculture can be described either broadly incorporating the vibrant regional farm economy that contributes to the area's food security and economic health, or it can be described more narrowly, referring to activities occurring primarily within the urban area boundaries of Fargo and Moorhead.

Urban agriculture impacts communities in a variety of ways, from providing food security and improving access to healthy food, to benefitting the environment in ways such as reducing water runoff. Urban agriculture includes community, school, and household gardens, urban commercial farms, CSAs, and farmers markets. To foster the development and growth of urban agriculture, a city may have to consider implementation tools that include changes to zoning ordinances, comprehensive plans, and state laws.

Table 14. Urban Agriculture in Cass and Clay Counties by year

Item	Area	Number	Year
Number of farmers' markets	Cass-Clay	8 farmers' markets, 2 produce stands	2012
Number of CSA subscribers	Cass-Clay region	2,320	2012
Number of CSA farms delivering to the area	Fargo-Moorhead	7	2012
Vegetables harvested (# of farms and acres)	Cass	3 farms; acres not available	2007
	Clay	14 farms; 1,752 acres	2007
Number of overall community garden plots	Cass-Clay	13 total gardens	2012
Number/percentage of farms with direct sales	Cass	3 farms; 0.3%	2007
	Clay	28 farms; 3%	2007
Value of agricultural products sold directly to individuals for human consumption	Cass	3 farms; $ not available	2007
	Clay	28 farms; $112,000	2007
Vegetables harvested for fresh market (# of farms and acres)	Cass	1 farm; acres not available	2007
	Clay	13 farms; acres not available	2007
Cropland harvested for vegetables vs. other agricultural products	Cass	3 farms harvested for veg; acres not available	2007
	Clay	14 farms harvested for veg; 1,752 acres	2007

Farmers' markets per 1,000 people	Metropolitan statistical area	0.038	2012
Number of organic growers and acres	North Dakota	152 operations; 216,569 total acres	2008
	Minnesota	543 operations; 154,136 total acres	2008
Percent organic acreage (total acreage of organic farming/total acreage of farms)	Cass	1 organic farm; organic acres not available	2007
	Clay	0.75%	2007
Number of producers participating in "Buy Local"	Cass-Clay	0	2012
Direct farm sales per capita	Cass	Null	2007
	Clay	$2.05	2007
Item	Area	Percent	Year
Percent vacant land that could be used for agriculture	Fargo	33.2%	2008
	Moorhead	3.7%	2008

Land Use and Ordinances

The land use systems in North Dakota and Minnesota prioritize development in urban areas, and the preservation of farm and forest land beyond urban areas. When this system of urban growth boundaries was first adopted, little consideration was given to the importance of open space and natural areas within urban boundaries. In recent years, the importance of natural areas and open spaces within cities has become more pronounced. Agriculture in particular is gaining traction; especially as carbon emissions, high fuel costs, and a down economy take center stage in the national dialogue.

Though there is growing public interest in urban agriculture, it is rarely supported by current zoning and land use policies throughout the F-M Metropolitan area. Table 15 summarizes where selected components of urban agriculture are permitted or prohibited based on local zoning codes. For a complete description of where agriculture is allowed outright, allowed as a conditional use, prohibited or not addressed, see Appendix 2.

- Only two of five jurisdictions permit chicken and animal keeping.
- Rainwater harvesting is permitted with conditions in all five jurisdictions
- Community gardens are addressed in Fargo and West Fargo where they are permitted by right.
- Green and hoop houses are permitted, with various restrictions in all five jurisdictions.

Table 15. Summary of jurisdictions and the approval of urban agriculture components

	Moorhead	Dilworth	Clay County	Fargo	West Fargo
Community Gardens	Not addressed	Not addressed	Not addressed	Permitted	Permitted in select zones
Farmers Markets	Not addressed	Permitted in select zones	Permitted accessory use	Permitted in select zones	Not addressed
Green or Hoop Houses	Permitted accessory use	Permitted in select zones	Permitted in select zones	Permitted as accessory use	Permitted in select zones
Chicken Keeping	Prohibited	Prohibited	Permitted as accessory use	Permitted with conditions	Prohibited
Animal Keeping	Prohibited	Prohibited	Permitted as accessory use	Permitted in select zones	Prohibited
Composting	Permitted	Not addressed	Not addressed	Not addressed	Not addressed
Rainwater Harvesting	Permitted with conditions	Permitted with conditions	Permitted with conditions	Permitted with conditions	Permitted with conditions
Home Occupation	Permitted provisional use	Permitted in select zones	Permitted with conditions	Permitted as accessory use	Permitted in select zones

ISSUES, OBJECTIVES, & OUTCOMES

Issues

A set of key issues were identified by Metro COG to generally describe the condition of the local food system in the F-M Metropolitan area. The following issues are representative of information collected through the work of CCFSI, the public participation efforts of Metro COG, and through a review of existing local and national trends surrounding local food systems.

- Growing interest in local food. There is a huge local food movement occurring across the nation in which the F-M Metropolitan area is at the very early stages.

- Market analysis and research. There is a need for research regarding the local food system within the F-M Metropolitan area. This information of trends and demands will drive future private and public investment into the system.

- Barriers for Institutions using local food. Local growers and producers are not able to provide the quantity or volume necessary to supply institutional consumers.

- Lack of local cooperation and distribution network. Local foods lack an efficient and connected market for distribution. This leads to too much competition between growers, when the market would benefit from cooperation.

- Lack of recognition of the local food system. Local governments lack a recognition or understanding of the local food system as evident by the omission of land use and zoning regulations, and community planning that support access to healthy and local food

- Food Insecurity. The number of residents accessing local food shelves and participating in SNAP has increased over the past few years indicating there are many opportunities to increase local food consumption.

- Food access. Emerging food deserts within the F-M Metropolitan area shows some neighborhoods are isolated from grocery stores, community gardens, and market places which sell and distribute healthy food alternatives.

Strategic Objectives and Desired Outcomes

Using the issues above, a detailed list of *Strategic Objectives* and *Desired Outcomes* related to the food system within the F-M Metropolitan area has been developed. *Strategic Objectives* and *Desired Outcomes* have been defined, for the purposes of the Metropolitan Food Systems Plan, as follows.

Strategic Objectives outline the principle objectives, issues, and value statements of the Metropolitan Food Systems Plan.

Desired Outcomes provide an understanding of strategies and action steps to support the improvement of the local food system. These actions and strategies will affect food systems stakeholders, local units of governments, and various elements of the local food system.

Strategic Objective #1: Support the Development of Local Food

There is a desire to place an increased emphasis on locally grown and produced foods to increase the economic vitality of small-scale food production. Consensus among key stakeholder groups points to the need to increase support for the local food system to establish a well-rounded economy for food production and sales. These actions will improve *direct to consumer* and *direct to retail/service* exchanges for local food, remove barriers for institutional use of local food, and promote a connected distribution network.

- *Desired Outcome:* An environment that is accessible to independent and entrepreneurial businesses that grow and distribute local food to supplement the current markets in the F-M Metropolitan area.

- *Desired Outcome:* Public policies to support an environment that encourages local food entrepreneurship.

- *Desired Outcome:* Partnerships between traditional food distributors and sellers and growers and producers of local food to expand the available market place for locally grown/ produced food.

- *Desired Outcome:* Coordination among public, private, and non-profit partnering agencies within the F-M Metropolitan area to ensure ongoing and continued support for the local food system.

- *Desired Outcome:* Develop incentives and strategies that assist public and private institutions in purchasing local food.

Strategic Objective #2: Address Issues of Food Access and Environmental Justice

Promoting the development of a strong local food system will make healthy food alternatives easier to reach, thereby improving the health of area residents. Support existing communities and neighborhoods by bringing local food and healthier choices closer to residential areas to increase accessibility by all modes of transportation. By bringing local foods to neighborhoods there is an opportunity to free up resources currently spent on transportation and reduce travel time and energy consumption used to buy and produce food.

Environmental justice target groups (low-income and minority populations) are most likely to have problems regarding food access. Data analysis shows the existence of emerging food deserts within the F-M Metropolitan area where low-income and minority populations are isolated from existing food markets and retail outlets. There is a need to develop initiatives which aim to address emerging food deserts by increasing food access and food security.

- *Desired Outcome:* Increase access to locally grown/ produced food and food products for those with limited incomes who are currently facing mobility limitations (i.e. low income, minority, and senior populations).

- *Desired Outcome:* Develop strategies to bring healthy and local food closer to those who currently do not have the opportunity to buy and eat it, specifically neighborhoods with higher concentrations of low-income and/ or minority populations.

- *Desired Outcome:* Increase access to local foods within neighborhoods by increasing the volume of healthy food options at local convenience stores and smaller markets and support the development of new local markets.

- *Desired Outcome:* Identify opportunities to locate community gardens, farmers markets, and other key components of the food infrastructure in established, walkable neighborhoods.

- *Desired Outcome:* Support the development of a food system in the F-M Metropolitan area that is naturally entwined with the existing transportation network and increase the likelihood of residents making food related trips by public transit, walking, and biking.

Strategic Objective #3: Ensure Public Policy Recognizes and Supports the Local Food System

Improvements to the local food system depend upon changes in public policy related to city ordinances, land use plans, and zoning regulations. Given the multi-jurisdictional nature of the F-M Metropolitan area, commonality and uniformity are critical to ensuring a meaningful expansion of the local food system. Addressing the food system will require agreed-to themes and strategies which can be supported by all local units of government.

- *Desired Outcome:* Develop a regional/ metropolitan food council which consists of local elected leaders and key policy makers. Encourage input and guidance from the private sector including producers, growers, and distributors.

- *Desired Outcome:* Develop a policy and land use framework to guide local decision-makers to ensure implementation of the local food system with a regional impact on the health and wellness of the F-M Metropolitan area.

- *Desired Outcome:* Improve the utilization of available urban land, transportation systems, and other public infrastructure in the F-M Metropolitan area to support the development and distribution of local food.

- *Desired Outcome:* Leverage State and Federal policies that allow flexibility in the use of food assistance programs (e.g. SNAP, WIC) at farmers markets and CSAs.

- Assure policies, zoning, and food related ordinances support easy access to healthy and local food.

Strategic Objective #4: Increase Public Awareness Regarding Benefits of the Local Food System

Local food systems have traditionally gone unrecognized in local or regional planning efforts, specifically regarding economic development, land use, neighborhood, and transportation planning. Efforts to grow the local food system depend on greater understanding among the larger community regarding what local food systems are, and how they operate should include the general public, consumers, and the private and public sector.

- *Desired Outcome:* Integrate food systems as a consideration into land use, transportation, economic development, and neighborhood planning processes developed by local units of government.

- *Desired Outcome:* Support the development of expanded and detailed market research regarding local consumer preferences and perceptions of local food; conduct assessments regarding awareness and understanding of the local food system.

- *Desired Outcome:* Identify marketing strategies to improve the understanding of local food options.

- *Desired Outcome:* Expand and improve existing online resource outlining available local food opportunities (markets, CSAs, gardens, etc.).

- *Desired Outcome:* Develop educational and training programs and initiatives which expand the capacity of existing local food producers while at the same time increase the number of local food producers.

Strategic Objectives #5: Improve Community Health Outcomes

A local food system would improve the general community health by providing more access to healthy, affordable foods. Based on the data collected surrounding existing key health indicators, there are many opportunities to impact the health in the F-M Metropolitan area with improved access to healthy food options and local foods.

- *Desired Outcome:* Remove barriers to consuming healthy local foods by providing more access points throughout the F-M Metropolitan area.

- *Desired Outcome:* Increase the consumption of local foods by demonstrating proper handling, preparation, and preservation of fresh foods and developing programs that incentivize fresh food purchases.

- *Desired Outcome:* Develop incentives that support healthy and local food donations for the food bank and shelters.

- *Desired Outcome:* Provide nutrition education and training on healthy food choices, cooking and preparing meals, and the impact of food choices on health.

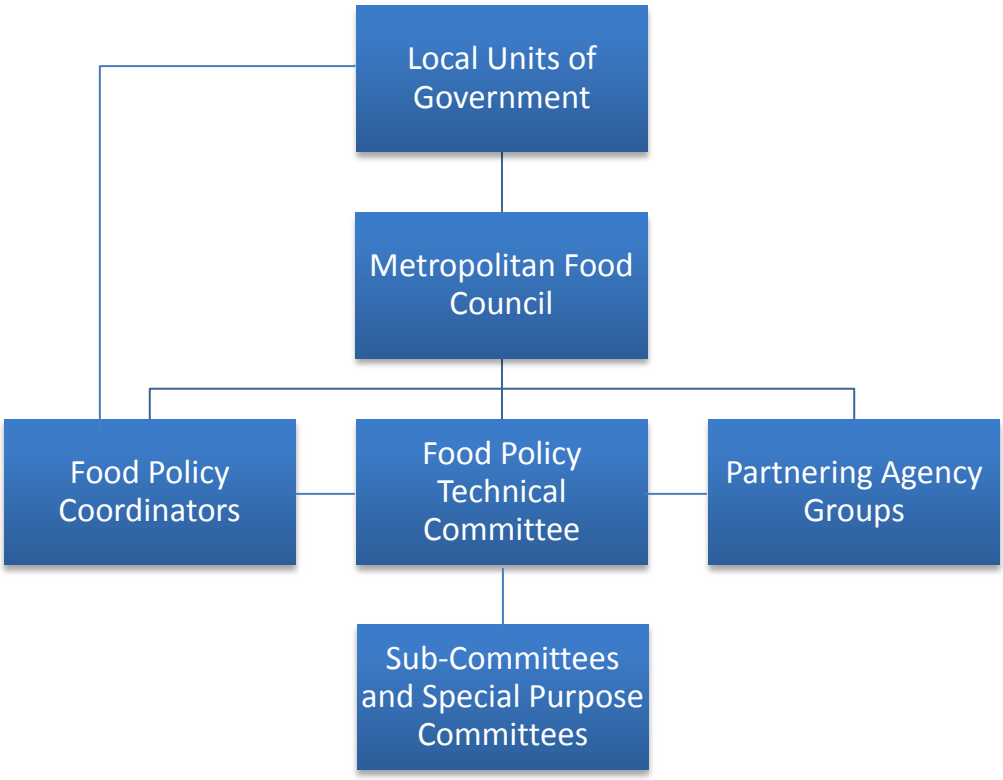
IMPLEMENTATION

The *Strategic Objectives* and *Desired Outcomes* listed above present an opportunity to develop an inter-connected set of action items that will lead to the growth and development of a local foods system. Identified as the most important implementation step, is the creation of a Metropolitan Food Policy Council. Additional recommendations are varied in scope and have been broken down into the five main focus areas.

<u>Development of a Metropolitan Food Policy Council</u>

The Cass Clay Food Systems Initiative has operated since its inception under the general guidance of a larger Planning Committee. However this Planning Committee lacks the political and legislative authority to bring meaningful effort to the development and expansion of the local food system within the FM Metropolitan area. In fact, most work of the CCFSI has to date been accomplished through smaller Task Forces, without any overarching political or policy direction from any local unit of government. In order to ensure real and meaningful progress towards the initiatives outlined in the Metropolitan Food System Plan, a larger policy level group is needed.

To ensure appropriate and timely implementation of the Metropolitan Food Systems Plan and its many interrelated initiatives, it is recommended that local units of government and affiliated interest groups explore the creation of a Metropolitan Food Policy Council. The Metropolitan Food Policy Council would be formed be through an intergovernmental agreement between the cities of Fargo, West Fargo, Moorhead, and Dilworth and Cass and Clay County. The broader framework for a Food Policy Council is outlined below.



The Food Policy Council would serve to coordinate and catalyze local efforts regarding improvements to the local food system. Similar to other inter-governmental boards in the FM Metropolitan area, the Food Policy Council could consist of a mix of both elected and possibly higher ranking administrative staff from affected local units of government. It is likely the Food Policy Council would be driven by a work program developed annually to ensure implementation of the Food System Plan and related initiatives.

The Food Policy Council would be initially staffed by Food Policy Coordinators, who would be existing city or county staff who have traditionally worked on local food systems issues since the inception of CCFSI. Food Policy Coordinators would be staff from city and/or county public health departments. Food Policy Coordinators would provide necessary logistical support for the Food Council and assist with outreach, development, and management. Overtime, as the Food Policy Council matures, the potential could exist to develop a metropolitan wide Food Policy Coordinator would work for the Food Policy Council.

The Food Policy Council would be driven by a Food Policy Technical Committee which would drive the day to day efforts regarding implementation of the Food Systems Plan. The Food Policy Technical Committee would serve a similar function to the Food Systems Tasks Forces which have been in existence since inception of CCFSI, and would consist of staff level public health and planning staff from local units of government and Partnering Groups. Partnering Groups are envisioned to be those public and private sector entities who have shown an interested in food systems planning in the FM Metropolitan area (E.g. School, Colleges, Growers, Buyers, Distributors, Parks Departments/Districts, Extension Service, etc.). Partnering groups could provide expertise, resources, financial support, research, or any other useful support for specific food system projects and initiatives.

Economic Development

- Create and support a "Corner Store Initiative" that connects small farmers to corner stores, providing opportunities to buy and sell healthy and local food in neighborhood scale stores.

- Support the creation of a local food hub. A food hub would provide a centralized location for institutions to purchase local foods in large quantities.

- Establish cooperatives for local foods. These organizations could be organized in various ways to perform various functions like specialization of products, processing, or distribution.

Food Access

- Support and promote charitable food programs which encourage donations of healthy foods and excess fresh and local food products. There are many local and national projects to help facilitate this already in existence.
    - Hunger Free ND
    - www.ampleharvest.com
    - www.feedingamerica.org

- Remove barriers to accepting SNAP at farmers markets through paper scrip, token, or receipts. Increase the impact by soliciting funds to provide "bonuses" to SNAP users.

- Develop incentives for farmers to sell in low-income markets.

- Implement healthy and sustainable food service guidelines that are aligned with the Dietary Guidelines for Americans in Public Institutions.

Food Infrastructure

- Evaluate permanent locations for a farmers market. Permanency will increase visibility, stability, and provide an opportunity to include cultural events, infill, and redevelopment.

- Increase food-processing capacity in the region.
- Improve aggregation of local food to increase distribution efficiency and access to volume consumers.
- Establish a Metro Food Systems Profile that is updated annually.

Outreach and Education

- Develop a comprehensive marketing campaign utilizing all forms of media to increase knowledge about local food benefits and availability.
- Create an expansive educational program that would offer gardening, handling, preparation, and preservation classes. Build upon the existing assets in the community: Minnesota and North Dakota extension services, university faculty, master gardeners and culinary experts.
- Integrate Farm to School Programs into the curriculum. Federal grants are available for educational greenhouses, school gardens, etc.
- Provide education on food safety regulations to increase consumer safety.
- Establish community kitchens that utilize existing licensed kitchen facilities. These kitchens would function to support small groups to prepare food products, teach cooking classes, and educate on safe food handling.

Urban Agriculture

- Inventory underutilized public land that is available for community gardens.
- Incorporate urban agriculture into the zoning code and ordinances to permit urban agriculture activities by creating "best practices." Provide model ordinances to facilitate the process of adoption.
- Ensure local and State government regulations and policies support local food goals.
- Provide incentives to strengthen food entrepreneurship.
- Create a community garden association.

The Metropolitan Food Systems Plan evaluates the trends, barriers, and existing conditions of the local food system. It provides a detailed list of issues, objectives and next steps. With effort from CCFSI, Metro COG, and the public these steps will change the F-M Metropolitan food system by increasing food access and food security through information, infrastructure, and efficiencies.

APPENDIX 1: SUMMARY OF METROPOLITAN FOOD SYSTEMS MEETINGS – 19, 20 MARCH 2013

During a two day public input process, Metro COG held eight focus groups and a public meeting to gather feedback from a range of interested persons and stakeholders from various sectors of the community. The comments gathered have been grouped into five focus areas: Economic Development, Food Infrastructure, Food Access, Outreach and Education, and Urban Agriculture.

Economic Development

Written Comments:

Despite the region's agricultural heritage, stakeholders mentioned that the local food systems of North Dakota and Minnesota are not as evolved as those of coastal regions. Regarding the development of the Metropolitan Food System Plan, it was recognized that it is important to consider the Triple Bottom Line: people, planet, and profit. It is necessary to find a balance which benefits residents, businesses, and the environment. Business stakeholders are concerned about the profitability of local food sales. Many local farmers currently sell their products at markets in Grand Forks and other areas because it is more profitable. In past seasons, some farmers have donated or thrown out more produce than they have sold. Local consumption by residents and institutions is not as high as it needs to be. Diversification, improved marketing, cooperation among farmers, and digital upgrades were suggested to increase sales.

Oral Comments:

- Consider the triple bottom line - people, planet, and profit.
- The farmers market systems in North Dakota and Minnesota are not as evolved compared to those in California, New York and the coasts.
- Some local farmers will drive to Grand Forks to sell at farmers market because it is more profitable.
- Farmers should work with each other.
- An organized group or cooperative of farmers is easier for consumers so buy from than going to each farmer individually.
- Sysco Minnesota is an example of a large wholesale distributor of local foods.
- Salad Makers buy and prepare lettuce. That is a middle man that reduces risk but increases cost.

Food Access

Written Comments:

There was a strong consensus to increase local consumption by the public, especially by those with limited access to healthy food. Though during past seasons, many producers have grown more than they can sell, food pantries have little, if any, fresh produce. There was an interest in locating community gardens, farmers markets, and groceries to at risk neighborhoods and emerging food deserts within walking distance of minority, low income, and elderly populations. Placing local food sources in communities could improve the accessibility of fresh produce. The addition of food sources in communities could decrease automobile use and increasing pedestrian and bike travel. School officials proposed that school kitchens be used in summer to process and preserve local foods.

Oral Comments:

- Not needing a car for grocery shopping helps people pay for housing, because they are not paying for a car, gas, or other vehicle expenses. This builds stronger communities of varied socio-economic statuses.

- Meetings should be held in the neighborhoods of emerging food deserts. Many of those residents have advocated for gardens.

- Community gardens would increase food security and resilience. They should be accessible by foot, bike, and bus.

- A mobile rentable kitchen could be certified for canning and freezing. It could be used to teach preservation skills to the community.

- Consider the wheelchair accessibility of gardens, especially near areas with a number of elderly residents. Seniors are a group whose access to local food should be considered.

- Daycares require purchase of sealed products.

- School kitchens could be used in summer for food processing and preservation.

- Consider different ways of marketing local foods to different demographics.

- Though food pantries receive donations from the public, farmers markets, and food banks like the Great Plains, they have little fresh produce.

- A mobile grocery or produce truck that accepts WIC and SNAP could help to get fresh, healthy food alternatives to emerging food deserts.

Food Infrastructure

Written Comments:

It was generally recognized that local food infrastructure needs to improve. North Dakota's food infrastructure is set up to support cash crops like sugar beets. Institutions find that local farmers who grow produce are more geared for farmers markets, not larger institutional settings. Local farmers have not dedicated land for commercial users on a large scale. Volume and food safety are issues for institutions.

Officials from institutions like hospitals and schools mentioned the importance of tracing food back to its origin. Traceback mechanisms are necessary to identify contaminated sources, but these ways are lacking in our local food system. It was suggested that institutions use local distributors to allocate the necessary amount of food demanded; to reduce the amount of paperwork; and to possibly process food. A distributor could facilitate a relationship between growers, consumers, and institutions. An example of this cooperation is Sysco Minnesota, a large wholesale distributor of local foods. Growers and buyers agreed that due to current barriers, restaurants and smaller institutions may be more feasible buyers for the time being.

Oral Comments:

- Growers are geared for farmers market, not packing. They haven't dedicated land for commercial users on large scale. There are few year round growers who have off season processing.

- Producers cannot meet the demand for schools and colleges because these institutions are not open during the growing season.

- Inconsistent sizing of local produce is an issue for institutions.

- College could find large producers, possibly alumni, to set aside some land for them.

- Local food is at odds with Medicare. There are concerns over food safety. It is important to be able to identify contaminated lots and increase food safety. Germs are different now.

- A distributor, who can locate available local and non-local foods, would make local food a feasible option for schools by reducing the amount of work the school has to do.

- Institutional consumption of local food may be a goal for further down the road, not an immediate concern. Restaurants are easier to sell to.

Outreach/Education

Written Comments:

There needs to be improved outreach and education regarding local foods. There is an interest in incorporating local foods into the cafeterias of schools so as to teach students healthier eating habits and to educate them as to how food is grown. By introducing local foods to children, they are also introduced to their families.

Community outreach efforts such as library seed handouts and the Streets Alive farmers market could increase public awareness of local food. Another outreach opportunity is in school kitchens. Kitchens are unused during the summer and could host classes to teach consumers food preparation and preservation skills.

Improving public awareness of local foods could increase public interest, consumption, and involvements. Decision makers lack knowledge and certainty regarding local foods. Educating the public and decision makers will improve the possibility of progress.

Oral Comments:

- It is important to focus on getting local foods to children at schools due to declining health rates. There needs to be a cultural change for children, college students, and adults to eat more vegetables.

- ELL students in West Fargo schools take more vegetables and fruits than other students.

- Kids are interested in how food is grown.

- Incorporating youth into school gardens will give them sense of ownership and keep them from vandalizing them. Fences have also been used to safeguard gardens.

- Libraries should hand out seeds to get families thinking about gardening and where foods come from.
- Institutions could have signage and labels informing consumers which foods are local.

- Streets Alive will feature a garden box and farmers market to reach out and educate the public about local foods.

- Decision makers have insufficient knowledge, limited political will, and uncertainty regarding local foods. Uncertainty for policy makers stops progress.

Urban Agriculture

Written Comments:

There is an abundance of unutilized land for the production of local foods. Current policies support traditional rather than urban agriculture. Many residents and school officials are in favor of gardens, greenhouses, and chickens. Supporting these forms of urban agriculture would help to improve access to healthy, affordable food options.

There are concerns regarding the maintenance, supervision, and safety of forms of urban agriculture. There are strong zoning regulations against chickens, poultry, and other livestock due to health and noise concerns.

School gardens would require maintenance in the summer. If unmaintained, school officials have said gardens would have to be removed for appearances. If community gardens were unmaintained, they would face a similar fate. Gardens face issues of vandalism and theft. Involving youth and neighbors could protect gardens and improve supervision. Fences could also reduce the risk of vandalism, as well as the risk of unwanted wildlife.

Oral Comments:

- There is a strong agriculture heritage in this area that should be preserved.
- The USDA has grants for school gardens.
- Schools are concerned about the appearance of gardens on the grounds, especially if unattended during the summer.
- Planting school gardens next to school buildings or asking neighbors to keep an eye on them may offer more supervision and reduce chances of vandalism and theft. Volunteers or staff would have to tend gardens during the summer. Greenhouses could provide year round production.
- Food can be sustainably produced on rooftops, empty lots, and on any available land with safe soil and water.
- Tax payers are paying for infrastructure that supports traditional agriculture and cash crop farming.
- There are strong zoning regulation against chickens, poultry, and other livestock.
- Community gardens and farmers markets could be incorporated into the Moorhead River Corridor Plan.
- Community gardens are limited because people are busy and growing food takes time.

APPENDIX 2: JURISDICTIONAL LAND USE ANALYSIS

City of Moorhead Land Use Analysis

Community Gardens or Residential Gardens	Farmers Markets	Greenhouses or Hoop Houses	Chicken Keeping	Animal Keeping	Composting	Rainwater Harvesting	Home Occupation
Not specifically addressed in any of the zoning districts as a permitted, provisional or conditional use. * §3.3.3 of the City Code states that 30% or more of the land cannot be "weeds" exceeding the height of 8 inches or an area of 250 contiguous square feet.	Not specifically addressed in any of the zoning districts as a permitted, provisional or conditional use. Permits for greenhouses, farmers markets or similar uses in commercial districts are handled by the City as "temporary" 180 day permits pursuant to the building code. *	Non-commercial Greenhouses or hoop houses are permitted accessory uses in all residential districts. All accessory uses would be subject to setback and lot coverage requirements.	Section 3.7.10 expressly prohibits chicken keeping within city limits.	Pursuant to §3.7.10(A) livestock is prohibited within city limits, which includes: chickens, ducks, geese, turkeys, domestic fowl, cattle, horses, pigs, sheep, goats or other domestic livestock. Certain pigeons (fancy or homing) and exotic animals bred in captivity and which have never "known the wild" shall be exempt.	Section 3.4.10 states composting is permitted within all residentially zoned districts. Enclosed containers cannot exceed 250 cubic feet and 4 feet in height, must be placed in the rear yard with a 20 foot setback to any habitable building. * Public nuisance regulations per §3.3.2(B)(6) would apply which specifically restrict "any use of property, substance or things….emitting or causing foul, offensive, noisome, nauseous or disagreeable odors".	The State of Minnesota does not have much information available on the legality of rainwater harvesting in Minnesota; and there does not appear to be any notable legislation, guidelines, laws or programs in place within the State or within the City of Moorhead. Minnesota functions under a 'state' plumbing code (does not conform to Uniform Plumbing Code or International Plumbing Code) and it appears rainwater harvesting would only need to meet minimum plumbing code standards.	Home occupations are identified as a *provisional* use within each residential zoning district. Section 10.18.2 (B) establishes the specific requirements, which to note include: a. Exterior storage is not permitted; b. All permitted occupations must be conducted within a building; c. Seasonal sales shall be conducted no more than 4 days per 180 days.

* For unlisted uses, the zoning administrator has the authority to make a determination of compatibility with the zone district based on the City's Comprehensive Plan and specific criteria established in the code [§10.18.1 (1) & 2(2)]

City of Dilworth Land Use Analysis

Community Gardens or Residential Gardens	Farmers Markets	Greenhouses or Hoop Houses	Chicken Keeping	Animal Keeping	Composting	Rainwater Harvesting	Home Occupation
Not specifically addressed in any of the zoning districts as a permitted or conditional use. Based on unlisted use regulations per §2.030 the city would likely facilitate any community or garden request in a commercial or industrial zoning districts through the conditional use permit process. Non-commercial gardening uses in residential districts are allowed. To note, within the Transitional Zone (TZ) "farming" and "agricultural" uses are permitted. This includes hobby farms, tree farms, agricultural crops, etc; but not livestock operations. See full definitions below for further details.	A farmers market, commercial greenhouse or nursery operation (retail and wholesale) would be considered a permitted use in the TZ district, C-1, C-2, C-3, I-1 and I-2 districts.	Greenhouses are a permitted use within the TZ district, including commercial application if approved as a conditional use. Non-commercial greenhouses are defined as accessory uses within the R-1, R-2, R-3, R-4 and R-5 districts; which are all residentially classified zoning districts. Accessory structures within residential areas are required to meet standards as set forth in Chapter 31 of the Zoning Ordinance, including setback provisions specific to each zoning district.	Dilworth Ordinance No. X (1963) (Section 101) states that no person shall keep any horses, cattle, pigs, sheep, goats, or poultry within the "platted area" of the city or "within 300 feet" of any platted area. Ordinance 97-6 prohibits chickens, ducks, geese, turkeys or other domestic fowl, cattle, horses, pigs, sheep, goats or other domestic livestock within city limits. The ordinance also prohibits any "wild or exotic" animals.	Not specifically addressed in any of the zoning districts as a permitted or conditional use. General public nuisance regulations as set forth in Minnesota Statutes §609.74 (or 561.01) could be applicable.	The State of Minnesota does not have much information available on the legality of rainwater harvesting in Minnesota; and there does not appear to be any notable legislation, guidelines, laws or programs in place within the State or within the City of Dilworth. Minnesota functions under a 'state' plumbing code (does not conform to Uniform Plumbing Code or International Plumbing Code) and it appears rainwater harvesting would only need to meet minimum plumbing code standards.	Home occupations are a permitted use in TZ district and are defined as accessory uses within the R-1, R-2, R-3, R-4 and R-5 districts; which are all residentially classified zoning districts. Chapter 32 of the Zoning Ordinance sets forth general provisions on home occupations relating to impacts on neighboring properties, equipment, signage, parking, employees, etc.	Not specifically addressed in any of the zoning districts as a permitted or conditional use. Based on unlisted use regulations per §2.030 the city would likely facilitate any community or garden request in a commercial or industrial zoning districts through the conditional use permit process. Non-commercial gardening uses in residential districts are allowed. To note, within the Transitional Zone (TZ) "farming" and "agricultural" uses are permitted. This includes hobby farms, tree farms, agricultural crops, etc; but not livestock operations. See full definitions below for further details.

* For unlisted uses per §2.030, the city administrator can review the use for compatibility and compliance with the applicable zoning district or for compatibility with conditional use regulations as cited in Chapter 6 of the Zoning Ordinance.

Clay County (MN) Land Use Analysis

Community Gardens or Residential Gardens	Farmers Markets	Greenhouses or Hoop Houses	Chicken Keeping	Animal Keeping	Composting	Rainwater Harvesting	Home Occupation
Not specifically addressed in any of the zoning districts as a permitted or conditional use.	*Farm stands* and/or seasonal agricultural sales are a permitted accessory uses sin the RP-WHP, RP-BIO, RP-AGG and AG zoning districts. Stands are limited to one (1) structure not exceeding 600 square feet. Roadside stands for the sale of agricultural product (grown on site) is a permitted accessory use within the SP-LD, SP, RP-WHP, RP-BIO, RP-AGG, AG and ASC zoning districts.	As noted in §8.5.5, farm buildings not used as dwellings are permitted in the SP, SP-LD, RD, RP-WHP, RP-BIO and AG zoning districts. Commercial greenhouses, nurseries or similar uses would be subject to provision for *farm stands* or *roadside stands*.	*Commercial agriculture* including the accessory use of raising less than fifty (50) "animal units of livestock or poultry" is a permitted use within each County zoning district, excluding the RP-AGG Resource Protection Overlay District. Farm buildings not used as dwellings are permitted in the SP, SP-LD, RD, RP-WHP, RP-BIO and AG zoning districts.	Not specifically addressed in any of the zoning districts as a permitted or conditional use. Public nuisance regulations as set forth in §5.1.2 of the County Code would apply which specifically restrict "the escape of ….fumes….in such quantities as to endanger the health of persons of ordinary sensibilities…." Other generalized public nuisance standards or regulations may also apply.	The State of Minnesota does not have much information available on the legality of rainwater harvesting in Minnesota; and there does not appear to be any notable legislation, guidelines, laws or programs in place within the State or within Clay County. Minnesota functions under a 'state' plumbing code (does not conform to Uniform Plumbing Code or International Plumbing Code) and it appears rainwater harvesting would only need to meet minimum plumbing code standards.	Home occupations "within dwellings in subdivisions" are permitted uses in each County zoning district excluding the HC, LHC and GFP districts. The use must locate entirely within the dwelling unit and cannot exceed more than 25% of the main level floor area (not including basement or garage). For home occupations on a rural parcel (non-subdivision) the use may be located in the dwelling or in a separate non-residential building. A separate non-residential structure cannot exceed 1200 square feet.	Not specifically addressed in any of the zoning districts as a permitted or conditional use.

* For unlisted uses per §8.5.5(D) of the County Development Code, any use not listed is prohibited; unless otherwise amended into a district through a text amendment as described in §8.4.5.

City of Fargo Land Use Analysis

Community Gardens or Residential Gardens	Farmers Markets	Greenhouses or Hoop Houses	Chicken Keeping	Animal Keeping	Composting	Rainwater Harvesting	Home Occupation
Community gardens and residential gardens (both commercial and non-commercial) are permitted uses within city limits. §11.0807 of the City Municipal Code states that "noxious or other weeds" exceeding the height of 8 inches are deemed a public nuisance.	This type of use is not specifically addressed in any of the zoning districts as a permitted or conditional use. The City of Fargo would classify this use as "retail sales and service", which is a permitted use in the UMU, NC, LC, DMU, GC and LI zoning districts. Temporary permits are also an option for permitting, depending on duration of the operation.	Based on language within §20.1203 non-commercial greenhouses or similar hobbies would be considered an accessory use per the City Development Code. The code states that accessory uses are associated with "household living".	As noted in §12.0301 "domestic fowl" such as chickens, geese, ducks, turkeys, pigeons.." or other domestic fowl are permitted within city limits under the condition they are kept within an enclosure and that the enclosure is kept at least 75 feet from and dwelling unit; as an accessory use in the Agricultural district only. Additional "nuisance" provisions are established in §12.0303 which are intended to mitigate possible odor and/or noise issues for any enclosure within 200 feet from a dwelling unit.	Pursuant to §12.0203 of the City Municipal Code and §20.0401 of the Land Development Code, farm animals such as horses, cattle, sheep, swine and goats are not permitted within city limits; excluding the AG, SRO and GI zoning districts. *Animal Confinements* are a conditional use in the AG and SRO districts. *Farming/Crop Production* is a permitted use in the AG and GI districts and a conditional use in the SRO district. Within the SRO district, "the keeping of one or more animals other than horses is considered a conditional use". §12.0218 prohibits "exotic animals" within city limits.	Not specifically addressed in any of the zoning districts as a permitted or conditional use. Public nuisance regulations do not appear applicable to this use, although public health may.	The State of North Dakota does not have much information available on the legality of rainwater harvesting; and there does not appear to be any notable legislation, guidelines, laws or programs in place within the State or within the City of Fargo. North Dakota functions under a 'state' plumbing code and as a home rule municipality the City of Fargo has the ability to adopt amendments to meet local needs. It appears rainwater harvesting would only need to meet minimum plumbing code standards.	Home occupations are considered an *accessory use* as defined in §20.1203 and are must be clearly incidental, subordinate in size/area and located within the same zoning district as the associated principal use. §20.0403 requires that all outdoor activities and storage areas associated with the home occupation be conducted in completely enclosed structures.

* For unlisted uses per §20.0401(F) of the City Development Code, the zoning administrator shall make a "similar use" interpretation based on specific criteria set forth in §20.1203

City of West Fargo Land Use Analysis

Community Gardens or Residential Gardens	Farmers Markets	Greenhouses or Hoop Houses	Chicken Keeping	Animal Keeping	Composting	Rainwater Harvesting	Home Occupation
Residential non-commercial gardening is a permitted use in the A district. This use is not addressed in any of the other zoning districts. §15.0305A of the City Code states that no grasses or non-noxious weeds shall exceed 8 inches or cover an area in excess of 30%, or it shall be deemed a public nuisance.	This type of use is not specifically addressed in any of the zoning districts.	As a commercial use, greenhouses, nurseries and similar uses are a permitted use in C, CM and CO-M districts. In addition, the Agricultural district identifies greenhouses as a permitted use.	Section 11.0106 of the West Fargo City Code prohibits the keeping of any "fowl or non-domestic animals" (except for horses) within city limits, within any zoning district; which includes chickens. Title XI of the City Code also prohibits "dangerous and/or vicious" animals from city limits. As noted in the City Zoning Ordinance §4.421, within the Agricultural (A) zoning district *commercial agriculture* is a permitted use and agricultural services is a conditional use. In the R-R and R-1E districts, *farm animals* would be a conditional use provided the lot is at least 2 acres (one animal for the first 2 acres and one additional animal per each additional acre).	Not specifically addressed in any of the zoning districts as a permitted or conditional use. Public nuisance regulations per §15.0317 would apply which restrict the "discharge of any objectionable odorous air contaminant" outside the subject property boundary.	The State of North Dakota does not have much information available on the legality of rainwater harvesting; and there does not appear to be any notable legislation, guidelines, laws or programs in place within the State or within the City of West Fargo. North Dakota functions under a 'state' plumbing code and as a home rule municipality the City of West Fargo has the ability to adopt amendments to meet local needs. It appears rainwater harvesting would only need to meet minimum plumbing code standards.	According to the City Zoning Ordinance, home occupations are permitted uses within the A, R1-E, R-L1A, R-1A, R-1B and R-5 districts. §4.448 states that the home occupation shall not be more than 25% of the main floor area and sets other standards for signage, appearance, equipment storage and parking. An employee may be added through a conditional use application.	Residential non-commercial gardening is a permitted use in the A district. This use is not addressed in any of the other zoning districts. §15.0305A of the City Code states that no grasses or non-noxious weeds shall exceed 8 inches or cover an area in excess of 30%, or it shall be deemed a public nuisance.